Topdressing Operations That Vibrate

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THE PROCESS of topdressing greens has gone through a slow evolution of single components and blends of materials since, I suppose, the practice began. While the composition of topdressing materials is a subject of great controversy, the operation itself is not. It is generally disliked by golfer, superintendent, and crewman. It requires handling heavy and bulky materials, to some degree by hand, and can be very labor intensive. The change in application procedures dates back some 30 years, to the time when some superintendents moved away from hand spreading and began using hand or motor propelled drop spreaders.

During his tenure at Old Warson Country Club, in St. Louis, Oscar Bowman was one of the first golf course superintendents to use broadcasting machines to spread topdressing. Stored inside a building, his mixture was rather dry, and because it did not flow freely, it needed physical assistance to maintain flow to the spinner mechanism.

The widespread use of straight sand as topdressing has permitted newer broadcasting equipment to be used to speed up light, frequent applications throughout the growing season. Wet sand, however, presents a handling problem, since it does not flow uniformly and often needs someone to ride on the spreader and help feed the spinner mechanism, just like Bowman's operation. Today this is not only unsafe, it is also a rather unproductive use of labor.

Ted Thorn, superintendent at the Finkbine Golf Course, University of Iowa, has not only solved the safety problem, but through project organization and the use of a device he and his co-workers adapted for golf course use, he has also reduced the amount of labor needed to handle the materials. His setup involves a dump-truck funnel of boards to channel the sand onto a conveyor/elevator to fill the spreader's hopper. It eliminates the potential lower back pain problems associated with shovelling the heavy, wet sand.

Eliminating the rider on the spreader took some imagination. Ted and company came up with an unusual vibrator to generate flow of the extremely wet, bridging sand. The device consists of a 12-volt starter motor connected by a V-belt to spin a heavy off-center or eccentric weight, which taps the side of the hopper. This sets up a strong vibration, which causes the sand to flow downward to the open throat of the hopper. Vibration is controlled by an on-off switch operated by the driver of the towing vehicle, and is used whenever the material flow to the spinner becomes inadequate. The operation is safe and fast, and requires no hand lifting. The efficiency of the operation was so impressive that I forgot to take an action photograph. Take my word for it, though, it does work, and it is very effective.

A vibrator is bolted to the broadcaster's hopper, which assures the flow of very wet sand to the spinner at a rate determined by the driver of the towing vehicle.

(Top) Topdressing materials handling at the Finkbine Golf Course of the University of Iowa minimizes hand work. Sand flows from dump truck to a belt elevator to the broadcaster hopper.

(Above) The vibrating mechanism is a heavy cylinder with an off-center shaft, powered by a 12-volt starter motor. In operation, the rotating weight taps the side of the steel plate-reinforced hopper to set up the sand-moving vibration.